Linux in the Workplace

John Staples, LBNL

14 January 2002

Linux: What is it?

- Clone of UNIX, invented at ATT in the 60's

- Inherently a multi-user, multi-process networking operating system

- UNIX forked significantly into a number of proprietary products (SunOS, AIX, etc)

- Linux open source, with lots of development activity

Distributions

- Linux is a:
  - Kernel - the core of the system -Torvalds
  - Set of applications
    - Many from (older) Free Software Foundation
    - Many new, many contributed
  - Installer
    - Different for each vendor (Red Hat, SuSE, etc)
- Linux Standard Base (LSB) starting to bring distros together

Installers

- Installations programs have become very sophisticated and easy to use
  - Autodetection of hardware
  - Automated package updates
  - Automated configuration file setup
    - All configuration files ASCII
- Can clone installation configurations

Mac OS X

- Interesting new development
- Based on BSDcore supplemented with Aqua GUI
- Attracting some Linux users
- MicroSoft Office will be available
- Good alternative?
  - Too early to tell

Migration for Scientific User

- From previous UNIX workstations
  - Almost trivial if source codes available
  - Good programming tools available
  - Solaris 9.0 not available for PCs any more
- From Windows
  - More difficult
  - Completely different GUI system
  - Some compilers (Lahey Fortran) have many non-standard extensions

Office Support under Linux

- Getting better
- Browsers
  - IE not supported
  - Netscape, Mozilla, Opera, Konqueror, Lynx...
- MS Office compatibility
  - Shaking out - Applix, Word Perfect, etc disappearing
  - Star Office 5.2, 6.0, Open Office 6.0
    - pretty good but not perfect
    - Requires a lot of computing power

Security

- Inherently more secure
  - Open source, can check source code
  - Security fixed posted quickly
- But, still vulnerable
  - Has not yet caught the attention of the script kiddies
- Remotely administered system maintenance and security updates?
  - Requires standard load

To SU or not to SU?

- SU = Super User = Root privileges
- Most users would probably insist on SU privileges
- SU access can be controlled to a subset
- SU needed to install software
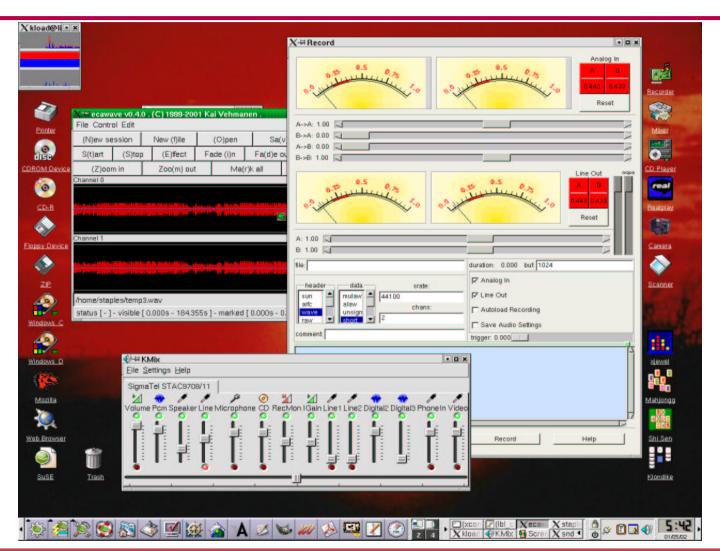- A superuser can cause a lot of damage

Fun Stuff

- In the tradition of writing software
  - Do it yourself
  - Lots of good software in the distributions or on the web to play with

Multimedia - Sound Editing

Bottom Line

- Serves me 100% of time
- Not for everybody though
  - Star Office needs lots of horsepower
  - Printer configuration complex
  - Non-availability of IE may limit web-based apps
- But
  - very active development proceeding
  - .NET being cloned, for example
  - Future bright but unpredictable